This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:** 

1-7. (Cancelled)

8. (Currently Amended) A drug infusion assembly for microinfusing a drug into the

hypothalamus of a patient's brain, comprising:

a plurality of microinfusion catheters disposed non-coaxially side-by-side and non-

Docket No. UIOWA-0008P4D1

parallel with respect to one another and configured to be inserted into the hypothalamus of a

patient's brain, wherein at least one microinfusion catheter of said plurality of microinfusion

catheters comprises a plurality of drug delivery ports arranged such that each drug delivery port

of the plurality of drug delivery ports is configured to deliver a drug to a separate site within the

hypothalamus;

a macrocatheter for housing the plurality of microinfusion catheters;

a drug delivery manifold, wherein each of said plurality of microinfusion catheters

is functionally coupled to said drug delivery manifold;

a drug supply line functionally coupled to said drug delivery manifold; and

Amendment Dated April 13, 2005

Reply to Office Action of January 13, 2005

a drug reservoir and pump for retaining and for pumping a drug, said drug reservoir and pump being functionally coupled to said drug supply line.

- 9. (Previously Presented) The drug infusion assembly as claimed in claim 8, wherein said macrocatheter includes a magnetic unit, said magnetic unit being configured such that application of an external magnetic field allows for stereotactic placement of said macrocatheter to a specific location within the patient's brain.
- 10. (Previously Presented) The drug infusion assembly as claimed in claim 8, wherein said macrocatheter includes a magnet located at a distal end of said macrocatheter.

## 11. (Cancelled)

- 12. (Previously Presented) The drug infusion assembly as claimed in claim 8, wherein said drug reservoir and pump are capable of pumping a drug at a variable rate.
- 13. (Previously Presented) The drug infusion assembly as claimed in claim 8, wherein said drug reservoir and pump are capable of pumping a drug at a variable rate, and the variable rate can be controlled percutaneously by a radio control unit.

Amendment Dated April 13, 2005

Reply to Office Action of January 13, 2005

14. (Previously Presented) The drug infusion assembly as claimed in claim 8, wherein

Docket No. UIOWA-0008P4D1

said drug reservoir and pump include a recharge valve for recharging said drug reservoir and

pump with a drug.

15. (Original) The drug infusion assembly as claimed in claim 14, wherein said

recharge valve is accessible percutaneously.

16-40. (Cancelled)

41. (Previously Presented) The drug infusion assembly as claimed in claim 8, wherein

the drug reservoir and pump contains and supplies an appetite controlling drug for treating

obesity.

42. (Previously Presented) The drug infusion assembly as claimed in claim 8, wherein

at least one microinfusion catheter of the plurality of microinfusion catheters is configured such

that each of the plurality of drug delivery ports can be independently controlled.

43. (Previously Presented) The drug infusion assembly as claimed in claim 8, further

Docket No. UIOWA-0008P4D1

comprising monitoring electrodes which sense electrical activity within the patient's

hypothalamus.

44. (Previously Presented) The drug infusion assembly as claimed in claim 43, wherein

the at least one microinfusion catheter of the plurality of microinfusion catheters is configured

to independently deliver a drug from each of the plurality of drug delivery ports of the at least

one microinfusion catheter based on information gathered from the monitoring electrodes.

45-51. (Cancelled)

52. (Previously Presented) The drug infusion assembly of claim 8, wherein the

plurality of drug delivery ports is disposed along a length of the at least one microinfusion

catheter.

53. (Currently Amended) A drug infusion device, comprising:

a macrocatheter;

a plurality of microinfusion catheters extending through the macrocatheter and

movably disposed non-coaxially side-by-side with respect to one another, wherein each of the

Serial No. 09/661,153 Amendment Dated <u>April 13, 2005</u> Reply to Office Action of <u>January 13, 2005</u>

plurality of microfusion catheters is configured to receive a drug, and wherein <u>each of the</u> plurality of microinfusion cathelevers is configured to move axially with respect to the <u>macrocatherter such that</u> an end portion of each of the plurality of microinfusion catheters is <del>configured to extend extends</del> beyond an end of the macrocatheter so as to infuse the drug into the hypothalamus of a patient;

a pump configured to controllably supply a drug to the plurality of microinfusion catheters; and

a manifold configured to convey the drug from the pump to the plurality of microinfusion catheters.

## 54-55. (Cancelled)

- 56. (Previously Presented) The drug infusion assembly of claim 53, wherein the pump can be controlled percutaneously.
- 57. (Previously Presented) The drug infusion assembly of claim 53, wherein at least one microinfusion catheter comprises multiple individually controllable drug delivery ports disposed along a length of the at least one microinfusion catheter.

Amendment Dated April 13, 2005

Reply to Office Action of January 13, 2005

58. (Cancelled)

59. (Previously Presented) The drug infusion assembly of claim 53, wherein the

Docket No. UIOWA-0008P4D1

macrocatheter comprises a magnet.

60. (Previously Presented) The drug infusion assembly of claim 53, further comprising

at least one electrode configured to sense electrical activity of the hypothalamus.

61. (Previously Presented) The drug infusion assembly of claim 60, wherein the pump

is configured to communicate with the at least one electrode and supply the drug to at least one

of the plurality of microinfusion catheters in accordance with the electrical activity of the

hypothalamus.

62. (Previously Presented) The drug infusion assembly of claim 53, wherein the drug

is configured to affect the weight of the patient.

63. (Previously Presented) A drug infusion device, comprising:

a plurality of microinfusion catheters disposed non-coaxially side-by-side with

respect to one another and configured to receive a drug and infuse the drug into a tissue of a

Amendment Dated April 13, 2005

Reply to Office Action of January 13, 2005

patient, wherein at least one microinfusion catheter comprises a plurality of individually

controllable drug delivery ports disposed along a length of the at least one microinfusion

catheter; and

a macrocatheter configured to house the plurality of microinfusion catheters.

Docket No. UIOWA-0008P4D1

64. (Previously Presented) The drug infusion device of claim 63, wherein the tissue

comprises the hypothalamus.

65-66. (Cancelled)

67. (Previously Presented) The drug infusion assembly of claim 63, wherein the

macrocatheter comprises a magnet configured to cooperate with an external magnetic field to

guide the macrocatheter.

68. (Previously Presented) A drug infusion assembly comprising the drug infusion

device of claim 63, and further comprising a pump configured to deliver the drug to at least one

microinfusion catheter of the plurality of microinfusion catheters.

Amendment Dated April 13, 2005

Reply to Office Action of January 13, 2005

69. (Previously Presented) The drug infusion assembly of claim 68, wherein the pump

is configured to be controlled percutaneously.

70. (Previously Presented) The drug infusion assembly of claim 68, further comprising

Docket No. UIOWA-0008P4D1

a manifold configured to convey the drug from the pump to the at least one microinfusion

catheter.

71. (Currently Amended) A drug infusion device, comprising:

a macrocatheter; and

a plurality of microinfusion catheters disposed non-coaxially side-by-side within

the macrocatheter, wherein at least one of said plurality of microinfusion catheters comprises a

plurality of drug delivery ports and is configured to receive a drug and infuse the drug into a

tissue of a patient, and wherein at least one of said plurality of microinfusion catheters is

movable in an axial direction within said macrocatheter.

72. (Previously Presented) The drug infusion device of claim 71, wherein the plurality

of drug delivery ports comprises individually controllable drug delivery ports.

Serial No. 09/661,153 Docket No. UIOWA-0008P4D1

Amendment Dated April 13, 2005

Reply to Office Action of January 13, 2005

73. (Previously Presented) The drug infusion device of claim 71, wherein the plurality

of drug delivery ports are disposed along a length of the at least one microinfusion catheter.

74. (Previously Presented) The drug infusion device of claim 71, wherein the

macrocatheter comprises a magnet configured to aid in the stereotactic placement of the

macrocatheter in the tissue.

75. (Previously Presented) The drug infusion device of claim 74, wherein the plurality

of drug delivery ports comprises individually controllable drug delivery ports.

76. (Previously Presented) The drug infusion assembly of claim 74, wherein the

magnet comprises a magnetic collar disposed on the macrocatheter proximate to an end of the

macrocatheter.

77. (Previously Presented) A drug infusion assembly comprising the drug infusion

device of claim 71, and further comprising at least one pump configured to controllably supply

the drug to the at least one microinfusion catheter.

Docket No. UIOWA-0008P4D1

78. (Previously Presented) The drug infusion assembly of claim 77, wherein the at least one pump is configured to be controlled percutaneously.

79. (Previously Presented) The drug infusion assembly of claim 77, further comprising

a manifold configured to convey the drug from the at least one pump to the at least one

microinfusion catheter.

80. (Previously Presented) A drug infusion assembly for microinfusing a drug into the

hypothalamus of a patient's brain, comprising:

a plurality of microinfusion catheters disposed non-coaxially side-by-side with

respect to one another and configured to be inserted into the hypothalamus of a patient's brain,

wherein at least one microinfusion catheter of said plurality of microinfusion catheters comprises

a plurality of drug delivery ports arranged to deliver a drug to a separate site within the

hypothalamus;

a drug delivery manifold, wherein each of said plurality of microinfusion catheters

is functionally coupled to said drug delivery manifold;

a drug supply line functionally coupled to said drug delivery manifold; and

a drug reservoir and pump for retaining and pumping a drug, said drug reservoir and pump being functionally coupled to said drug supply line, wherein said drug reservoir and pump includes a recharge valve for recharging said drug reservoir and pump with a drug.

Docket No. UIOWA-0008P4D1

- 81. (Previously Presented) The drug infusion assembly as claimed in claim 80, wherein said recharge valve is accessible percutaneously.
- 82. (Previously Presented) A drug infusion assembly for microinfusing a drug into the hypothalamus of a patient's brain, comprising:

a plurality of microinfusion catheters disposed non-coaxially side-by-side with respect to one another and configured to be inserted into the hypothalamus of a patient's brain, wherein at least one microinfusion catheter of said plurality of microinfusion catheters comprises a plurality of drug delivery ports arranged to deliver a drug to a separate site within the hypothalamus;

a drug delivery manifold, wherein each of said plurality of microinfusion catheters is functionally coupled to said drug delivery manifold;

a drug supply line functionally coupled to said drug delivery manifold; and

a drug reservoir and pump for retaining and pumping a drug, said drug reservoir and pump being functionally coupled to said drug supply line, wherein at least one microinfusion catheter of the plurality of microinfusion catheters is configured such that each of the plurality of

drug delivery ports can be independently controlled.

83. (Currently Amended) A drug infusion assembly for microinfusing a drug into the

hypothalamus of a patient's brain, comprising:

a plurality of microinfusion catheters disposed non-coaxially side-by-side and non-

parallel with respect to one another and configured to be inserted into the hypothalamus of a

patient's brain, wherein at least one microinfusion catheter of said plurality of microinfusion

catheters comprises a plurality of drug delivery ports arranged to deliver a drug to a separate site

within the hypothalamus;

a drug delivery manifold, wherein each of said plurality of microinfusion catheters

is functionally coupled to said drug delivery manifold;

monitoring electrodes that sense electrical activity within the patient's

hypothalamus;

a drug supply line functionally coupled to said drug delivery manifold; and

a drug reservoir and pump for retaining and pumping a drug, said drug reservoir

and pump being functionally coupled to said drug supply line.

Amendment Dated April 13, 2005

Reply to Office Action of January 13, 2005

84. (Previously Presented) The drug infusion assembly as claimed in claim 83, wherein

the at least one microinfusion catheter of the plurality of microinfusion catheters is configured to

independently deliver a drug from each of the plurality of drug delivery ports of the at least one

microinfusion catheter based on information gathered from the monitoring electrodes.

85. (Previously Presented) A drug infusion device, comprising:

a plurality of microinfusion catheters disposed non-coaxially side-by-side with

respect to one another and configured to receive a drug and infuse the drug into the

hypothalamus of a patient;

a pump configured to controllably supply a drug to the plurality of microinfusion

catheters; and

a manifold configured to convey the drug from the pump to the plurality of

microinfusion catheters, wherein at least one microinfusion catheter comprises multiple

individually controllable drug delivery ports disposed along a length of the at least one

microinfusion catheter.

86. (Previously Presented) A drug infusion device, comprising:

a plurality of microinfusion catheters disposed non-coaxially side-by-side with respect to one another and configured to receive a drug and infuse the drug into a

hypothalamus of a patient;

at least one electrode configured to sense electrical activity of the hypothalamus;

Docket No. UIOWA-0008P4D1

a pump configured to controllably supply a drug to the plurality of microinfusion

catheters; and

a manifold configured to convey the drug from the pump to the plurality of

microinfusion catheters.

87. (Previously Presented) The drug infusion assembly of claim 86, wherein the pump

is configured to communicate with the at least one electrode and supply the drug to at least one

of the plurality of microinfusion catheters in accordance with the electrical activity of the

hypothalamus.

88. (Previously Presented) A drug infusion device, comprising:

a macrocatheter; and

a plurality of microinfusion catheters disposed non-coaxially side-by-side within

the macrocatheter, wherein at least one microinfusion catheter comprises a plurality of drug

Serial No. 09/661,153 Amendment Dated <u>April 13, 2005</u> Reply to Office Action of <u>January 13, 2005</u>

delivery ports and is configured to receive a drug and infuse the drug into a tissue of a patient, and wherein the plurality of drug delivery ports comprises individually controllable drug delivery ports.

89. (Currently Amended) A drug infusion device, comprising:

a macrocatheter; and

a plurality of microinfusion catheters disposed non-coaxially side-by-side within the macrocatheter, wherein at least one microinfusion catheter of the plurality of microinfusion catheters is movable in an axial direction with respect to the macrocatheter and comprises a plurality of drug delivery ports and is configured to receive a drug and infuse the drug into a tissue of a patient, and wherein the macrocatheter comprises a magnet configured to aid in the stereotactic placement of the macrocatheter in the tissue.

- 90. (Previously Presented) The drug infusion device of claim 89, wherein the plurality of drug delivery ports comprises individually controllable drug delivery ports.
- 91. (Previously Presented) The drug infusion assembly of claim 89, wherein the magnet comprises a magnetic collar disposed on the macrocatheter proximate to an end of the macrocatheter.

Amendment Dated April 13, 2005

Reply to Office Action of January 13, 2005

92. (Previously Presented) A drug infusion device, comprising:

a macrocatheter;

a plurality of microinfusion catheters disposed non-coaxially side-by-side within

the macrocatheter, wherein at least one of said plurality of microinfusion catheters comprises a

plurality of drug delivery ports and is configured to receive a drug and infuse the drug into a

tissue of a patient; and

at least one pump configured to controllably supply the drug to the at least one

microinfusion catheter, wherein the at least one pump is configured to be controlled

percutaneously.

93. (Cancelled)

94. (Previously Presented) The drug infusion assembly of claim 92, further comprising

a manifold configured to convey the drug from the at least one pump to the at least one

microinfusion catheter.

95. (Previously Presented) The drug infusion assembly as claimed in claim 8, wherein

said drug reservoir and said pump comprise a combined drug reservoir and pump.

Serial No. 09/661,153 Amendment Dated <u>April 13, 2005</u> Reply to Office Action of <u>January 13, 2005</u>

Docket No. UIOWA-0008P4D1

- 96. (Previously Presented) The drug infusion assembly as claimed in claim 80, wherein said drug reservoir and said pump comprise a combined drug reservoir and pump.
- 97. (Previously Presented) The drug infusion assembly as claimed in claim 82, wherein said drug reservoir and said pump comprise a combined drug reservoir and pump.
- 98. (Previously Presented) The drug infusion assembly as claimed in claim 83, wherein said drug reservoir and said pump comprise a combined drug reservoir and pump.